

ABSTRACT

Disclosed herein are a strain measurement module and strain measurement system. The strain measurement system includes a tunable light generator, a coupler, a fiberoptic sensor unit, and an optical detector. The tunable light generator includes a Super Luminescent light emission Diode (SLD), and a tunable Fabry-Perrot (FP) filter cascaded to an output terminal of the SLD to convert light having a wideband spectrum into discrete optical signals. The coupler receives and distributes the optical signals output from the tunable light generator. The wavelength compensation means receives the optical signals from the tunable light generator through the coupler and detects wavelengths of an optical signal output from the tunable light generator and passed through the FP filter. The fiberoptic sensor unit receives the optical signals from the tunable light generator through the coupler and transmits a response signal corresponding to a variation of strain attributable to load. The optical detector detects the response signal output from the fiberoptic sensor through the coupler.